Our Club Rates are: **$1.90** for two copies (to the same or different post-offices); and for THREE or more copies, 90 cents each.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXVIII. Sept. 3, 1891. No. 10.

Editorial Buzzings.

Vermont's Appropriation for the World's Fair has been increased to $15,000.

It is Reported that the Prince of Wales, Emperor William of Germany, and the Shah of Persia all seriously contemplate visiting the World's Fair in 1893. The Sultan of Zanzibar has decided to make an extensive exhibit, and a request for space has been cabled.

An Interesting Collection from Asiatic-Russian provinces is being exhibited on the Champs Elysee, in Paris, and it is said will be brought to Chicago, in 1893. The exhibition is in charge of Gen. Annenkoff, son of the Princess Dolgorouki (morganatic wife of Alexander II.), who is the head of the great trans-Caucasus railway into Turkestan and Afghanistan. The collection comprises natural products of Central Asia, and arms, clothing, jewels, and household articles of the various provinces, as well as a panorama of a battle in Turkestan, with scenic illustrations of the snow-capped mountains.

Feeding Back the honey, to have sections completed, has been often tried and proved to be too expensive. Mr. G. W. Demaree is now experimenting with it. He writes as follows:

When I get through "feeding back" to have sections finished, and to test just how much honey it takes to finish a pound of *comb-honey*, I will send to the BEE JOURNAL, an article detailing my experiments.

Asthma can be cured by the liberal use of honey, as will be seen from the following article, which is copied from the London Encyclopedia:

Dr. Munroe, in his "Medical and Pharmaceutical Chemistry," says: "The late Dr. John Hume, of the commissioners of the sick and hurt of the royal navy, was for many years violently affected with asthma. Having taken many medicines without receiving benefit, he at last resolved to try the effect of honey, having had a great opinion of its virtue as a pectoral.

"For two or three years he ate some ounces of it daily and got entirely free from his asthma, and also of a gravel complaint with which he had long been afflicted. About two years after he had recovered his health, when he was sitting one day in the office of the sick and hurt, a person laboring under great difficulty of breathing, who looked as if he could not live many days, came to him and asked him by what means he had been cured of his asthma. Dr. Hume told him all the particulars of his own case and mentioned to him the means by which he had found relief. For two years after, he heard nothing of this person, who was a stranger to him and had seemed so bad that he did not imagine that he could have lived many days, and therefore had not even asked him who he was; but at the end of that period a man, seemingly in good health and well dressed, came to the sick and hurt office and returned his thanks for his cure, which he assured him had been brought about by the free use of honey."

When Breeding Bees, breed for business. Keep a steady eye, all the time, to the best results. Beauty is but one of the characteristics of the "coming bee," and though it is very desirable, it is not the only thing to be sought after. In developing new strains of bees, the most important thing is to be able to transmit to progeny, for an unlimited time, the desirable characteristics attained. Mr. D. A. Jones, who has had much experience in breeding bees, gives, in our Canadian contemporary, a very valuable article on this subject, which we here present to our readers in its entirity. He says:

New strains and new-fangled notions in reference to bees, seems to be the order of the day. Mention a way in which bees may be improved, and it will not be long before you will find somebody advertising something, which they claim possesses wonderful merits.

There seems to be a disposition in the direction of a craze for bees that will Winter well. If memory serves us correctly, it was not many years ago that a certain gentleman in the United States advertised that he had wonderfully hardy bees for sale, that would Winter in or out-doors, in good or bad hives, under any and all circumstances. The following Winter proved conclusively, however, that such was not the case, and that a person, to be convinced, had only to gaze upon his empty hives in the Spring.

Now we fancy there is a disposition on the part of someone, to make a boom for a season or two on a special kind of bee, and by the time the public learns that this new bee is a hollow mockery, they can jump off that hobby onto a different one.

We would suggest that, as a public safeguard and a guarantee of good faith, any one having bees which they claim to be superior to all others in any respect, should send a colony or two to Professor Cook, or some of the leading apiculturists of the North American Bee-Keepers' Association, appoint a committee to test their qualities, and if they are superior in the various points claimed, that they be either awarded a diploma and the right to charge so much a colony, for a certain number of colonies, these to be distributed at the various convenient points throughout North America for breeding purposes, or that the party receive suitable Government recompense, and give them to reliable queen-breeders at special rates. The breeder in turn, to sell the queens at a price that will be within the reach of every bee-keeper.

Now, friends, we do not mean to say, that he who has succeeded in securing such a race should not be paid—far from it. Our experience in the breeding of bees, leads us to the firm conviction that bees cannot be bred properly and carefully, unless they are located in isolated localities. We have spent a great deal of money and time, in trying to rear superior races of bees, and he who can secure a fixed race in one, two or three years, is deserving of a high position in bee-keeping circles, and will accomplish what our most experienced bee-keepers have failed to do.

We shall be pleased to hear from any bee-keeper who claims to have a superior race of bees, and if, after correspondence, we fancy there is something extra-good about them, we shall be pleased to purchase a colony or two and give a good price for them. We have known colonies of bees to Winter in splendid condition for a great many years in the same hive, and a novice might have thought that they had some specially good qualities in this respect, but he would have been mistaken.

We recollect going to a place to purchase bees, which were in old box-hives. The gentleman refused to sell one colony, on account of its superiority to all others. He expatiated on the number of years that colony had stood, and said that it had cast from one to three swarms every year; that the swarms had issued sooner than others; that it never was without honey; that the bees were also good honey-gatherers, and in fact were everything that could be desired, and he put more value on that colony than he did on half a dozen others in the yard.

He did not realize that the very claims he was making for that one colony of bees did more harm than good, for the swarm of bees that issued from that colony from year to year proved to Winter no better, nor gather more honey than ordinary bees.

From his own statements there appeared to be nothing to recommend them beyond the good points of the one colony which he would not sell.

We afterward had the satisfaction of transferring that colony to a movable-comb hive, for the gentlemen in question, and the secret was not hard to discover. The peculiar way in which the combs were built in the hive, enabled the bees to form a cluster in the center, and move out in any direction to get stores, and

thus, surrounded on every side and overhead with combs filled with well-ripened honey, they had everything necessary to success.

Such a condition of things could not fail to give the best of results. We believe Mr. Corneil, of Lindsay, has adopted a similar plan, with some of his colonies, and he considers it a step in the right direction. We have frequently had colonies do wonders, but never dreamt that because a colony had given good results one season, or two, that we had secured a new race of bees, and that they would duplicate themselves in this respect for all time to come.

Now, do not imagine, friends, that we think bees cannot be improved—on the contrary, we are positive that they can, but there is a way to go about it different from that usually adopted, if we wish to make a permanent success.

Iowa Columbian Exhibition Commissioners will take advantage of the big crowds at the State Fair, to distribute World's Fair literature of all sorts. They have headquarters on the grounds, and confidently hope to develop an interest which will result in a large appropriation next Winter.

This Table, showing the time it takes the bees to develop, should be familiar to every person who keeps bees:

	Queen.	Worker.	Drone.	
Egg	3	3	3	
Growth of larvæ	5½	6	6½	
Cocoon	1	2	1½	
Rest	2	2	3	
Pupa	4½	8	10	
Winged insects	16	21	24	days.

Patent Frame.—On page 168 of the BEE JOURNAL, we published illustrations of a comb-frame on which a patent had been granted to Mr. Grubb, of Nebraska, stating that the plan was an old one, and that we had repeatedly seen it in use. The following remarks concerning the frame, we clip from the *Canadian Bee Journal:*

J. N. Grubb, of Glenville, Nebr., on Jan. 27, 1891, patented a comb-frame for bee-hives. After reading the description and claims in the patent, we have come to the conclusion that he does certainly live in a "glen," or some remote place where none of the ordinary bee-literature of the day, or very little of it at least, has ever found its way. If he had read a bee-book or bee-periodical, and thoroughly posted himself before applying for his patent, we think he would never have gone that far with it, and he would have been amused at any one who would do so. It is really time that every person had learned that the first investments to be made in connection with bee-keeping, is to procure a stock of the best bee-literature of the day.

Melbourne's apparatus for experiments in rain making has been kept in a securely-locked and guarded barn at Cheyenne, Wyo., and he will allow no one to inspect the interior. The United States signal officer has been added to the committee in charge, and an accurate report will be kept of all atmospheric changes during the time of the experiments.

Live Stock.—Chief Buchanan, of the Department of Agriculture for the World's Fair, has completed a scheme for the distribution in premiums of $150,000, which the Board of Directors appropriated for live stock awards. Before making the distribution Mr. Buchanan called in a number of experts, and after consultation with them he figured the proper distribution approximately as follows: Horses, $52,000; cattle, $30,000; swine, $20,000; sheep, $15,000; poultry and pet stock, $10,000; dogs, $4,000; total, $131,000.

This showing leaves $19,000 as a contingent fund, which Mr. Buchanan thinks should be held until it is ascertained whether breeds will be exhibited in sufficient number to entitle them to compete among themselves.

Very Punctual.—I was surprised to receive the feeder as soon as I did. I like it very well. I receive mail matter in a shorter time from you than from Carlisle, O., only eight miles from here.

JOHN H. ROHRER.

Tippecanoe City, O., July 16, 1891.

Queries and Replies.

Foul Brood—Its Effect on the Honey.

QUERY 782.—1. What is the cause of foul-brood? 2. Does foul-brood in a cell harm the honey in adjoining cells, not effected with the disease? 3. Does foul-brood in an apiary injure the honey for market or table use.—Wis.

1. *Bacillus alvei.* 2. Probably not. 3. I do not know that it does.—C. C. MILLER.

1. I do not know. 2. I think it does. 3. I should not like to eat such honey, or offer it for sale.—C. H. DIBBERN.

1. Who can tell? 2. Yes, for the larval bees. 3. No; provided no bees ever get any of it.—G. M. DOOLITTLE.

1. I do not begin to know. 2. Do not know. 3. Do not know, having had no experience, but should suppose it would not.—JAMES HEDDON.

1. What Cheshire calls *Bacillus alvei*, is, without doubt, the true cause. 3. Would not advise the selling honey from a colony that has foul-brood.—G. L. TINKER.

1. *Bacillus alvei.* 2. You do not say for what purpose. I would rather not eat the honey from adjoining cells, and I would not consider it safe food for bees. 3. Not in colonies not effected by the disease.—M. MAHIN.

1. Said to be a fungus. 2. If foul-brood is caused by a fungus the spores would be transmitted to all parts of the hive, and the honey likewise effected. 3. I should condemn all such honey as unfit for table use.—J. P. H. BROWN.

1. It is a contagious disease, like smallpox in the human family. What originates that? 2. I should think so; the air in the hive is foul. 3. I do not want any of it "in mine." Have had no experience with the disease.—MRS. L. HARRISON.

1. A fungoid organism. 2. Yes, to feed the bees. It should be boiled a few minutes, then it is safe food for bees. 3. No. Of course, it would need to be carefully extracted, and as the germs are in it, it is always better to boil it and feed to the bees.—A. J. COOK.

1. *Bacilli* attacking and killing the brood. 2. It harms in so far that it would probably convey the disease if fed to healthy bees. 3. A colony much effected will gather very little honey. If a colony is so little effected that it stores honey in the surplus apartment, I think such honey good for table use.—R. L. TAYLOR.

1. Who can tell. I confess I cannot, although I know the particular cause in my own apiary, viz.: feeding honey not thoroughly heated so as to destroy the germs, such honey having been taken from an infected hive. 2. Yes. It effects it with the foul-brood poison. 3. I should not want to use it, though I do not think any injury would be caused by so doing.—J. E. POND.

1. Contagion. 2. No, it does not harm the honey for use, but if bees from a healthy colony should get the honey from a diseased colony the healthy colony would become diseased also. 3. Not unless the honey is extracted from the brood-nest. Several years ago, when my apiary was effected with the disease, I extracted the honey and melted the combs, and the honey was so thick with foul-brood matter that in pouring it it would adhere so closely together that it would pour out in a body.—A. B. MASON.

1. I do not know; and from what I have read on the subject, I do not believe that anybody else does. It is an infectious disease, as full of mystery as is cholera in hogs, chickens, etc. 2. No one who is not wholly indifferent as to what he swallows, would like to eat honey after it had been subjected to the foul odor accompanying a foul brood-chamber. 3. Of course it does. It would be a gross imposition to the consumer, and dangerous to the bee-keeping interest, to put infectious honey on the market.—G. W. DEMAREE.

1. The disease improperly called "foul-brood" is caused by *bacilli*, and it is contagious. 2. It should be boiled, and then may be used for feeding bees. 3. It is not suitable for table use, having been contaminated by the foul odor of the hive. It may be extracted and used for some kinds of manufacturing purposes, such as making printers' rollers. —THE EDITOR.

The Bee and the Cricket.

GEORGE KENT.

A bee, one day, in arbor lay
Or rather was found humming;
Busy and blithe, taking her tithe
Of "anise, mint and cummin."

A cricket near was in high cheer,
Chirping in lively ditty;
To work as drudge he thought "all fudge,"
For toil he felt no pity.

'Twas Summer time, each in their prime,
One bent on mirth and pleasure;
Wise to provide, the other plied
Her task, for Winter's treasure.

The Summer's day had passed away,
And Autumn brought "Jack Frost;"
Each in their turn began to learn
Of time to count the cost.

The bee could show of cells a row
Of well-filled sweetest honey;
The cricket's song had brought along
No food, "for love or money."

The Winter came—for very shame,
The cricket was found dodging
In any nook where he could look
For miserable lodging.

The bee was hived, and joyous thrived,
In comfortable quarter;
Among her friends her Winter spends
In pleasure without barter.

Now, which think you, on sober view,
The wisest part has acted?
If you have doubt, don't find it out
As cricket poor in fact did.

—Little Pilgrim.

Topics of Interest.

My Experience with Fixed Frames.

BARNETT TAYLOR.

In 1861, I was thoroughly possessed with the idea of keeping bees in a more scientific way. I secured "Langstroth on the Honey-Bee," and studied it with great interest. Previous to that time, I had never seen a movable-frame hive, and I at once resolved to adopt them, but found no way of spacing the combs the proper distance apart, except the very slow and uncertain one of merely guessing; and, not being inclined to trust to chance in anything, I began experimenting to find some better way, and, as a result, invented the frame which I exhibited at Keokuk, last November.

In the hive I gave to Mrs. Harrison, the frame, you will remember, had wire nails driven into the ends of the top bar, and projecting ⅝ of an inch. On each end of the hive there is a strip of tin projecting ¼ of an inch above the rabbet, with small notches, 1⅜ inches apart, cut in its edge, and in these the frames rested on the wire nails. Small wire staples in one end of the bottom of the hive holds them in place there.

All of my bees were kept in this kind of hive when used with full brood-chambers, until some eight years ago. I made thousands of them and they became common in this section of the country; and I believe they gave entire satisfaction to everyone who used them, and to-day, if I intended to use fixed frames, I would adopt them (after extensive experience with all the popular styles of fixed-distance frames in use) without one second's hesitation; but I have been using an improved rabbet, in connection with hanging frames, with a device showing just where to place each frame instantly, without, in any way, interfering with the functions of plain hanging frames. I have over 100 colonies in such hives now, and they give better satisfaction, all things considered, than any frame I ever used, and I shall try no further costly experiments, but use this kind of frame entirely in the future, unless something shall appear that is better than anything produced in the past.

To show that I have not reached this decision without a fair chance of arriving at reasonable conclusions, I will give my experience with other kinds of fixed frames, especially the Heddon and Hoffman (so-called). I made 100 hives with entire closed-end frames, placed in a suitable case, and when they were new and empty I handled the frames with the greatest pleasure; but when they were filled with a crowded colony of bees, and dampness had swelled the hives and frames, I found them, after three seasons of experience, so annoying to handle, as compared with my old frame, that I altered them all into hanging frames by taking off the ends, and adding new ends and top-bar.

But 4 or 5 years ago there commenced a great hubbub about the new famous Hoffman frame. (By the way, I had been using those half-closed-end frames in my little double brood-chamber hives for years before I ever heard of either Mr. Hoffman or his great invention, and as the frames in these hives are only 4½ inches deep, and scarcely ever handled singly, they answered very well, just as the Heddon frames do. But in the future I shall use a suspended frame in even these hives, as it has advantages over either.) As I was just starting out-

apiaries, I thought I must have a hive especially adapted to hauling around, and 500 hives the size of my old hive, but with Hoffman frames, were constructed in the very best manner. After they were completed I spent hours in handling the frames in the empty hives, and I pronounced them "very good indeed." The out-apiaries were duly supplied with them, and every swarm was hived therein. But pretty soon Mr. D. W. Whitmore, who very successfully managed our Etna apiary complained that the "new frames were not near so nice to handle as the old wire-end ones." Mr. Whitmore is now managing bees for himself, and he said to me lately (after three years' experience with the Hoffman frame): "I want you to make me 50 hives in the flat, with the old wire-end frames, they beat the closed-end frames at every point; the old frames are the ones for me."

I used 50 of these hives in my home apiary, and after trying them three years the difficulties of handling frames in hives crowded with bees completely disgusted me, and I transferred the combs to hanging frames, and bid the Hoffman frame a respectful good-by.

I have tried several other styles of fixed frames, in a small way, but found none satisfactory.

Forestville, Minn., August 19, 1891.

Mental Life of the Honey-Bee.

DR. DONHOFF.

There are actions of animals which depend upon acquired ideas. Ideas are retained, as with men, of collective impressions. The retained ideas appear sharper, and more like mental impressions, than the ideas which are retained by men from mental impressions. If a hive stands among many of similar appearance, the bee returning from the field finds her own hive again. The bees that swarm retain the scent of the queen, that runs about freely in the hive, and collect around her.

I gave to a magpie, within half an hour, twelve coins and pieces of bread, which she hid in the most different places of the garden and field, and concealed with earth, or with a leaf and earth. Some places I marked by sticking in a bit of wood. On the next following days coins as well as pieces of bread, were gone.

The swallows, which migrate to Egypt, and sometimes to the neighborhood of the equator, come back again to the place where they were born. A farmer at Dinslaken, not far from Orsoy, has accustomed a nightingale to come into his room and eat at the table where he sits. Last year it returned again for the third time.

The animals could not come back again if there was not still, after a half-year, present to their minds the picture of the country, which impressed itself upon them on the home journey. The ideas of animals are associated, according to the same law of similarity as the ideas of men. The bee, which returns from the field and sees the hives, associates with one of them the picture and position of the hive which was impressed upon it at its first outward flight; it recognizes the identity between its idea and one of the hives which it sees, and thus is it enabled again to find its hive.

On the front of the hive I stuck some blue paper; fourteen days after I stuck yellow paper upon it. The bees returning from the field hesitated long before they settled, and at last they flew, not to the entrance, but mostly to places on the hive distant from it. The mental idea of the yellow hive, the idea of the blue hive presenting itself again to the consciousness, and the difference of these pictures, were causes of the hesitation.

If a hive is changed to another stand, the bee makes hovering flights by way of finding its bearings. The difference of the picture necessitates these flights for the purpose of noting its bearing. If a colony has swarmed, every bee makes, at its first outward flight, these bearing-noting hoverings, even if the swarm has been put in the place of the parent colony. There must, consequently, have been an idea of the act of swarming retained, which presented itself to the bee's consciousness at its outward flight. But there must be with the higher animals more complicated associations of ideas, which the bees do not possess. If a servant girl has been accustomed to feed the pigs, they get up when they hear the girl's footsteps, and hasten to the feeding-trough. This kind of an association appears to me to occur in all mammals and birds.

A colony of bees may be fed every evening, but the bees will never hasten to the feeding-trough when they see their owner coming. If a dog has had a beating, he runs away when he sees the stick taken up. I let bees fly in my room, caught them, and pressed them repeatedly, which is unpleasant to them; for if they are let loose, they run or fly

away from it. But I could never notice that a bee flew away when I made motions with my fingers as though I would catch it.

But the thing in which animals are deficient is, as Johann Muller remarks, the faculty of forming conceptions. The bee is incapable of forming the idea of several ideas, of forming generalizations; it cannot form the conception of honey, it cannot, therefore, form a general idea; it cannot form the idea that honey is sweet; it does not apprehend the connection which exists between honey and sweet.

Because the essential connection between things escapes animals, their minds may harbor a world of individual ideas, but they cannot find the stationary pole in the series of phenomena, on that account are they so limited. If one of the higher animals has accidentally done something whereby advantage has been gained, it repeats this.

My magpie continually threw about some yellow, blue and red paper, which I had laid at the bottom of its cage. I several times concealed a bit of meat under the blue paper; when it threw about the blue paper again, it found the meat and ate it up eagerly. After it had found meat under the blue paper several times, and I again laid papers in the cage it only attended to the blue. Similarly I accustomed it to draw a piece of meat, which hung by a thread under the cage. But to form conclusions from the analysis of conceptions, to deduce actions that would be useful to it, of this it was just as incapable as any other animal. But there do occur acts of animals which do not depend on experience.

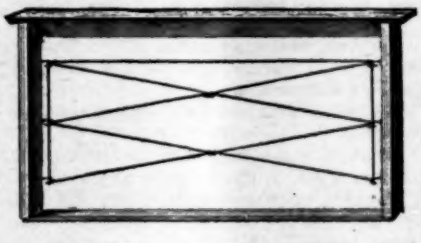
In these acts of instinct our bee stands higher than any other animal; it is the proper representative of instinct. Its remarkable household, with its labor, its comb construction—wonderful on account of the skill manifested, more wonderful because of the mathematical problem that is solved in it—have been from of old the admiration of men. I have been close to swallows and seen them build. I have seen the more remarkable web woven by spiders, but the thing that has charmed me most is the leger-demain-like skill with which a bee takes out a scale of wax from between the abdominal rings, and with which it attaches the particles when duly kneaded.

Who has not been touched by the marvelous nature-rule which impels a bee to make way for her queen, when she walks over the comb to lay her eggs? The man who can stand before the mysterious powers which hand to one another here their golden flagons, without being inspired by a feeling—I might say a sacred feeling—of reverence, must be a Philistine.

Bee-Keeping in Central Missouri.

C. L. BUCKMASTER.

Last year I had three colonies of black and hybrid bees (which cost me $7.50), and they increased to six, but one colony had no queen, and they died before Winter. These were in different kinds of hives, so I could do nothing to help them. Four came through the Winter all right, and the other one had the fewest number of bees—if I should say a handful I am



sure I would say too many. I have made a good colony of this small affair by giving them two frames of brood.

This Spring I bought 16 colonies, in box-hives, for $1 each, and 1 colony was given to me, making 22 colonies altogether. I transferred them to 8-frame Langstroth hives, and used the old boxes for wood. This was a big job, and I think prevented the bees from swarming, for I had only a few swarms. I now have 28 colonies in good condition, and have taken about 300 pounds of extracted-honey, and I think I can take 200 pounds more in a few days. I would have a nice lot of comb-honey if my supers had not been delayed so long. I have made 50 hives and the furniture for them, and did all the transferring myself.

I now have the whole theory of bee-keeping, and have had some of the practice. I have learned that bees need no cellar in this climate; that black bees store honey in the sections much the prettiest, but the honey will not sell for any more than that stored by the Italians.

I am going to Italianize some colonies this Fall, and the remainder next Spring. I am making artificial swarms with frames of brood and young bees, to put my new Italian queens with. If I do not

lose any this Winter, I shall have 30 colonies to begin with next Spring.

I have learned a way to wire a brood-frame, which I think beats the old method. I learned by having several whole sheets of foundation pulled out by the weight of the bees. I put three nails in each end and use a little more wire. The top wire I pull down a little so that the foundation is held firm in the groove, and the other wires keep it from folding. I can hive a large swarm on foundation wired this way, and have no trouble, and this, I think, is a great saving, for foundation costs money.

Columbia, Mo., Aug. 11, 1891.

Apicultural Notes from Alabama.

ED. CLARK.

Bees are not gathering much honey here now. The season has not been as good as I expected.

Sourwood did not yield much nectar this season.

Sumac is in bloom, but we have had too much rain for it to yield any amount of nectar; as the weather has cleared up, however, I expect to secure some honey from it yet.

There has been a great deal of honey-dew this season—so much so that it dripped from the leaves of the trees. It is light-colored and tastes almost as well as any honey.

The honey-flow from poplar and huckleberry was abundant, but my bees were too weak to get the full benefit of it. The poplar is a grand honey producer, but unfortunately for bee-keepers, the greater part of it has been cut down, in this section. There was a great deal of poplar on the sides of our mountains, which was sold for $1 per tree, and less. If the owners of the land upon which it grew, had the honey they migt have procured from the poplar trees, it would be worth much more than the price they received for the timber.

I had 3 weak colonies in the Spring, and have increased them to 8. I secured 3 colonies from the woods, but one of them is in the woods now. When I found the colony that returned to the woods, I had nothing to put them in except an old "gum." I put them in the gum, and they remained until the next day, when they swarmed, and settled on a grapevine near by. I returned them to the gum, and they seemed contented, and built several small pieces of comb, but after a few days they left the gum and went to a hollow chestnut tree near by, and I shall allow them to stay there until Spring.

Nat, Ala.

Some New Bee-Escapes.

C. H. DIBBERN.

Ever since I invented the horizontal, removable bee-escape, in 1887, I have been trying to improve and cheapen it. In my long series of experiments, I have been greatly aided by the fact that I own a tin shop, and can do ordinary tinner's work. I would get an idea into my head, and straightway make a device to carry it out, and perhaps before night I would be testing it on the hives; in this way I have tried many things, and now have about a half dozen patterns that work all right. Of these I have selected two, the "New Dibbern" and the "Little Giant," that I am now offering for sale.

In the New Dibbern I have an entirely original bee-escape; there is not a single point or principle copied from others—which cannot be said of any other escape. The cut in the advertisement gives a very fair idea of it.

Bees in passing out, need not travel over four inches, through plain passage-ways, which they will do much more readily than where obstructions, such as springs or trap-doors, are used. I thoroughly tested it in actual use on crowded hives, and have actually forced the bees to lie out while the supers were entirely clear of bees.

All parts of the escape can be seen from the top, and should any clogging ever occur, the escape can be readily cleaned, by removing the center strip, and springing up the wire-cloth, or removing it entirely. There are no delicate springs, or other traps, to get out of fix, and with care it will last a life-time.

There is no patent on the escape, nor is there any intention of patenting it. Of course, they are free to all, and any one may make them—if they can do so cheaper than I. I trust, however, that bee-keepers generally will give me the preference over others, who may commence making them. Full directions accompany every escape, which give some new and valuable suggestions.

THE "LITTLE GIANT" BEE-ESCAPE.

In my efforts to give the fraternity a perfect escape, I have not confined

myself to what some have called the "labyrinth" system, but have tried, long ago, what could be done with springs, traps, etc. I succeeded in producing one escape, on the flood-gate principle, that has pleased me greatly. I have succeeded in producing a little escape only 1¼x4 inches, that has stood every test. The little gates are made of broom-wire, and are provided with a peculiar device to prevent the bees propolizing the hinges.

The great advantage in this escape, is that 4 or 5 bees can pass out at once, and none can get back. This is a much more rapid escape than where only one bee can squeeze out at a time, between springs. Should any propolizing ever occur, the escape can be readily cleaned by putting it into boiling water.

These escapes ventilate the super, by means of wire-cloth directly under the large hole. This not only provides ventilation but serves to *draw* the bees to escape. This feature is entirely my own, and is not found in any other escape.

I have now fulfilled my promise to give to bee-keepers a perfect bee-escape—in fact, I now give them two. I ask, in return, only for a preference in the trade over other manufacturers, to repay me for my efforts.

Some men seem to think that I deserve only ridicule, and abuse, but I care very little for the opinion of such. If I have given bee-keepers a valuable invention, as I fully believe I have, I am thoroughly satisfied.

Milan, Ills.

Prevention of Increase by Swarming.

W. P. FAYLOR.

Where the apiarist has all the bees he or she may desire, and wishes to work the bees for honey, the preventing of increase by natural swarming becomes an important item to be considered. How vexing to the bee-keeper it is that when his bees are wanted to gather honey during a good honey-flow, they spend their leisure hours swarming or preparing to swarm.

A great many inquiries come to hand for some method to prevent swarming. It is generally urged that plenty of room for the bees to enlarge and spread, or widen their borders, will have a good effect against the swarming impulse. Room, and plenty of room, is not the chief requisite to forestall natural increase. Cutting out queen-cells is another means usually resorted to. This, in most cases, has the desired effect if gone over the second time. If the swarming impulse is defeated till the bees get to storing in the surplus receptacles, swarming will usually be over for the season. Raising the brood-chamber ¼ of an inch from the bottom-board, so as to allow a free circulation of air will have a better effect than any one thing the apiarist can do besides, to prevent swarming.

As soon as I notice a brood-chamber becoming pretty well filled with bees, I place a little strip of lath under each corner of the brood-chamber, raising the hive the thickness of a lath all around from the bottom-board. In nine cases out of ten where this is resorted to, it will not even be necessary to cut out queen-cells. Raising the brood so as to let the air go whistling underneath the brood-frames, will always hasten the bees up into the sections, or upper story.

I have had but two natural swarms during the last ten years, and none for the last three years. The more we keep our bees from swarming the less will they be inclined to swarm in the future. The instinct of the bee can certainly be improved.

State Line, Ind.

Apicultural Items from Minnesota.

C. THEILMANN.

As the time has advanced far enough, even in this northern climate, most bee-keepers are looking for reports concerning the honey crop.

Bees in this vicinity, on the whole, wintered poorly, and many colonies dwindled in the Spring, while the cold weather kept back those which were not very strong, until midsummer.

The outlook in June, for a big honey crop was never better. Clover and linden could not have looked any better than they did about June 20, and the bees had filled their combs all around the brood-chamber nicely with honey, and began work in the sections, as white clover was in full bloom; but the nights became very cold and the bees could only work by hours, and half days.

On July 4 the linden blossoms opened, and lasted until July 19. The trees were covered with blooms, but the unfavorable weather continued until the bloom faded. My bees could work only 3 full days while the linden bloom lasted, and since then, up to date, the bees have not gathered honey enough for their

own consumption, and have consumed considerable of the honey from the outside combs.

The weather has been very dry for the past 6 or 7 weeks; many of the honey-producing plants have dried up, and as far as I can learn there is no prospect for Fall honey, and my information comes from nearly all parts of the State, except north and northwest from St. Paul.

The average yield, per colony, Spring count, is from 10 to 30 pounds, all white honey, of good quality. I had 200 colonies in the Spring, and obtained a little over 6,000 pounds, but not all bee-keepers in this part of the State were so fortunate. I have not heard of any who secured over 25 pounds of surplus per colony, and the honey crop is only about one-fourth of an average.

The market at St. Paul and Minneapolis is glutted with honey, with but little demand, as yet. Some of our bee-keepers are sending honey to those markets and selling it for whatever they can get, when they could get a great deal more for it at home.

There were light frosts last night, and the night before.

Theilmanton, Minn., Aug. 24, 1891.

Rock River, Ills., Convention.

J. M. BURTCH.

The semi-annual meeting of the Rock River Bee-Keepers' Association met in the parlors of the Randolph House, at Sterling, Ills., on Thursday, August 6.

Members were present from Prophetstown, Lyndon, Dixon, Coloma, Clyde, Morrison and Sterling, representing about 1,000 colonies. Among the many questions discussed pertaining to apiculture were the following:

"What effect will honey-dew have on bees for Winter stores?"

"Is it best to use wired frames or not?"

"Full sheets of foundation or starters in brood frames?"

"Will it not pay to make all poor honey into vinegar?"

"Starters or full sheets of foundation in sections?"

"Does not the use of separators lessen the proportion of partially filled sections at end of season?"

"Would it not be for the interest of every bee-keeper to join the Bee-Keepers' Union?"

An excellent dinner was served at noon, to which nearly all present paid their respects.

An enjoyable time was had, the only regret being that there were not more of the bee-keeping fraternity present to enjoy the festivities of the occasion, "the feast of reason and the flow of soul."

The next annual meeting will be held at Sterling, Ills., Dec. 3, and it is hoped that all bee-keepers in the territory embraced by the association will avail themselves of the privilege of being present.

As train time (four o'clock) was approaching, the association reluctantly adjourned, the members going their several ways, feeling that it was good to have been there, and expressing thanks to "mine hostess" of the Randolph House for her kind treatment.

Morrison, Ills.

Fence in the Apiaries.

MRS. L. HARRISON.

While it is possible to keep bees in closely populated districts without their becoming a nuisance, there are but few persons who are so constituted as to be able to engage in it with impunity. If colonies were never disturbed, they might not annoy near neighbors, but when honey is extracted, or sections removed during a dearth of honey, great care should be exercised.

A bee-keeper of this city, who is located on a city lot of little more than fifty feet in width, has been buying bees as opportunity offered, and was ambitious of increasing his colonies to the number of 150. He called lately to compare notes, and gave a bit of his experience, which I will now relate for the benefit of others similarly situated. Variety is the spice of life, and bee-keepers have been accused of only giving the bright side of this pursuit.

He said: "I had been working with my bees, and I noticed that the fuel in the smoker had nearly all burned out, so I picked up a rag that I saw and put it in and as it burned I puffed away at some bees that were lying out and drove them into their hive.

"In an instant the air was full of robber bees, pouring into the hive where I had driven in the outlying bees, and along with them their guards. I wet a cloth in kerosene and spread it over the hive and poured on carbolic acid. The bees were stinging everything within

reach—the family, chickens and pigeons. I finally exchanged hives, putting the robbed colony in the place of the robbers, and got stung fearfully while moving them. This exchange stopped the robbing, but the bees popped against the glass of the windows trying to get into the house, and watched the doors for some person coming out whom they might sting. They kept this up the following day.

"I had planted a row of sunflowers along the division fence between me and a neighbor on one side, and the bees did not disturb them, but the family adjoining me on the other side were molested. I can account for this affair in no other way than this: The cloth that I put into the smoker had been over the bees, and I noticed that it had wax and propolis on it; and it was the smell of its burning that set the bees to robbing so furiously.

"Instead of my wanting 150 colonies of bees on my lot, I would like to sell half of the 20 I now have, or send them into the country on shares."

This man has learned a lesson that he will never forget, and we may also profit by it. The value of a screen around an apiary, such as a high board fence, hedge, trees planted closely, or rows of sunflowers is shown. The bees did not sting anything across the row of sunflowers, and if they flew that way they aimed high and went up out of the way of temptation. If an apiary is inclosed with some such screens, the bees appear to think that they need only to defend the inclosure: that that is their home.

Weedy cornfields are the prospect for Fall honey in many localities. A species of polygonum, commonly known as blackheart, is very rank, owing to frequent showers, and is perfectly at home in many fields.

I heard lately of a honey-plant that is new to me, growing in the moist lands of the Illinois River bottom, where there are acres of it humming with bees gathering loads of both honey and pollen. It is commonly known as American yellow-top, and from the description given it is a variety of wild mustard.

CITY BOY—"I smell honey."
BEE-KEEPER—"You will smell something warmer than honey if you don't get out of there pretty quick."

MARKETING HONEY.

Those who have been so fortunate as to secure white clover or basswood honey, should be in no hurry to market it, as from all data obtained the crop will be light.

Very white comb, filled with dark honey gathered from honey-dew, is now offered for sale in this market. A groceryman who has purchased a crate of such honey, says that he sold two pounds of it to a customer, and she gave him a blowing up for selling her such stuff. It should not be put upon the market, for it will injure the sale of a better article. It should be kept at home and used for

Spring feeding of bees. It may not be good Winter food, but when bees can fly, will do no harm.—*Prairie Farmer.*

Peoria, Ill.

History of Bee-Escapes.

G. W. DEMAREE.

A friend of mine has suggested that an article from my pen, on the history of bee-escapes, would be read with interest, now, since the device has been made a practical help in the apiary. There is some responsibility attached to such an undertaking, because of the difficulty the historian finds in the way of doing justice to all.

The first hint we have of a "bee-escape" in our nomenclature was printed on a device to permit bees to escape from a dark closet and prevent them from returning to carry away the honey. This device was invented by the writer of this article and exhibited by him at the National Convention, at Lexington, Ky., in 1881. Mention is made of this device in the report of the Committee on Exhibits, as may be seen by referring to the report of the proceedings of the Convention as given in the AMERICAN BEE JOURNAL of that year.

The concern was made of wood and glass and was in the form of a V and had a spring at the apex for the bees to "escape." Afterward I substituted the wire cone; and in 1887 I began to experiment with an entirely new principle. This new principle consisted of a delicately adjusted trap-door, or swinging gate, in what I call a *chute*. This tiny swinging gate was so finely adjusted in the passageway or *chute* that the slightest touch from the inside would swing the under part of the trap-door outward and let the bees "escape," but when pressure was brought to bear from without, a "stop" at the bottom of the *chute* prevented the door from swinging inwardly and no bee could force her way back.

When I was experimenting with this tiny swinging trap-door, Mr. J. S. Reese, of Winchester, Ky., sent me his wire-cloth device applied to a horizontal division-board. Thus he became the first to apply the bee-escape to a honey-board, and is now the accepted father of the present, practical bee-escape—one of the greatest helps known to modern bee culture.

With this new idea I revised my tiny trap-door plan, and having adjusted it in a small tin *chute*, so as to fit it in a honey-board, it became a perfect success.

While Reese and Dibbern were working to perfect their labyrinthine plan, I was hopeful that they would succeed, till experience taught me that nothing but *mechanical force* would prevent bees from returning in numbers sufficient to annoy the apiarist. Now, it seems a little singular, but the facts appear to warrant the conclusion, that Mr. Porter was at the same time experimenting with his delicately adjusted spring device, which he has patented, and therefore brought into general notice.

Some friend sent me two of Porter's escapes and I immediately adjusted them in suitably made honey-boards and have given them the severest trial, right beside my swinging-door device, and I have no hesitation in saying that nothcan be more simple, and few devices will ever be more efficient in performance than the trembling little springs which constitute the Porter bee-escape. But it is my opinion it will meet a rival in the subtle, swinging trap-door, when I have procured machinery that will make the little gates perfect.

Now, in conclusion, I have to say that from the Reese labyrinthine idea, the bee-escapes of to-day, and of the future are, and will be, a progression of ideas. —*Review.*

Christiansburg, Ky.

Three Sounds Made by Bees.

DR. C. C. MILLER.

On page 142, Prof. Leader says: "It has been found that the wings have no part in the formation of sound." This is not in accord with the teachings of other investigators. Indeed, Prof. Leader himself, in the very next sentence, unwittingly contradicts his own statement, for he says that when the wing is more or less cut away there is a different *pitch* of the sound. Now, pitch is a very important part of a sound, for when you take away the pitch there is no sound left; in other words, there is no sound without pitch. So if the wings take part in the formation of pitch, then they have a "part in the formation of sound."

What he probably meant was, that while the wings might modify the pitch of a sound, they were not the main factors in making the sound. But even this ground is untennable, according to high authorities; at least, it is only part of the truth.

Cowan and Cheshire agree in their statements, the former quoting such authorities as Charbrier, Burmeister, Landois and Marey. According to these writers, although the vocal apparatus spoken of by Prof. Leader makes a sound, there are two other sources of sound, and consequently three kinds of sounds. The first, buzzing is made by the vibration of the wings; the second, much sharper, by the vibration of the abdominal rings; and the third, humming, the most acute and intense, by the action of a true vocal apparatus, placed in the stigmatic orifice.

Marengo, Ill.

Bees, Poultry and Horticulture.

MRS. S. E. SHERMAN.

We are here at our annual convention, to consider what pertains to the best interests of our pursuit.

I, as a member of this society, am here under protest, for my bees and poultry at home are calling loudly for my aid, assistance and fostering care. But it is for them I am here, to plead their cause and to place them upon a proper footing, and to show you that they are a necessary adjunct to successful horticulture. I now say, without fear of successful contradiction, that the possibilities in bee-keeping and poultry-raising have not yet been reached.

Need I say less of horticulture? The true horticulturist and fancier, like the bee-keeper, is an enthusiast. I need not remind any who plant trees and grow fruits of the genuine pleasure that thrills his soul when nature responds to his intelligence, thought and careful directions. He lives in a world all his own. He needs no other intoxicant to complete his happiness.

Horticulture is one of the fine arts; it requires the skill of a master; but after all his skill in planting, after ransacking the earth for improved varieties, after propagating, grafting and hybridizing, he must rely mainly on nature's methods of fructification. The favoring winds and industrious bees are needed to fertilize the bloom to insure a harvest of fruit. As a means of accomplishing this end, there is no question but that the bee is of great service to the grower of fruits; no other insect is multiplied in such vast numbers so early in the Spring, when their agency is so much needed to fertilize the orchards and small fruits.

If the winds were the only means of carrying the pollen from flower to flower, how often would perfect fertilization fail from too much or too little wind, during the brief time when the bursting buds are sighing for the life-giving dust from the neighboring flowers.

Not only is honey provided in the delicate chalices to entice them, but the pollen so essential to the plant (and just as essential to the bee in furnishing the proper food for its young), is placed in close proximity to the nectar, so that in getting either it is unwittingly carrying the dust from flower to flower, working out the wise plans of Providence as relates to plants, and catering to man's pleasurable taste at the same time.

The drop of honey is placed, then, in the flower, not because it is needed in the flower or fruit, but to tempt the bee to brush its hairy legs against the anthers and distribute the golden dust. So the bee introduces itself at once to the horticulturist as his friend. The latter ought to meet it half way and acknowledge its two-fold service. It does him a service while on its daily rounds in search of food for itself and young, and again by storing up for his benefit the liquid sweets which it does not need itself, and which, ungathered, vanish like the morning dew, like the manna which the Israelites ate of. The ungathered portions melted "when the sun waxed hot."

What, then, is there to hinder these three vocations from going hand in hand, since each is helpful to the other. Each furnish inducements for the other to exist. These pursuits once entered upon, possess charms of their own. No other stimulus is needed to follow them than the fascinations of their own creation.

But comparatively few people know the value of the bee to the various branches of horticulture. Many look upon them as a simple machine for the gathering of honey, by which means the human taste is gratified. But in truth the bee is almost as much a part of choice fruit and beautiful flowers as the branches upon which they grow. The flower, with its honey, and the bees are actors in one of nature's most beautiful and interesting problems, and through the intricate workings of this problem are born the brightest colors, finest perfumes, and richest flowers.

Countless flowers are fertilized by the bee which would otherwise perish from the earth. When there are no bees, fruits and flowers show the effect of a violation of the law of nature by slowly but surely degenerating. The bee is as necessary to the flower as the flower to the bee; in conjunction a harmony is produced which results in more brilliant

colors, in sweeter flavors and perfumes to regale the senses of man.

In fructifying the various flowers, bees act as nature's marriage priests and present us with a field of study as boundless as the gorgeous realm of nature's bloom. But for the oft-repeated visits of the bees, many a beautiful flower would in a short time cease to bloom—aye, and also to live. Many plants absolutely require the visit of bees or other insects to remove the pollen mass and thus to fertilize them. Hence, Darwin wisely remarks when speaking of clover and heart's-ease, "no bees, no seed; no seed, no increase of the flower." The more visits from the bees the more seed from the flowers; the more flowers from the seed.

Darwin mentions the following experiment: "Twenty heads of white clover visited by bees produced 2,990 seeds; while 20 heads so protected that bees could not visit them produced not one seed." This is certainly conclusive evidence, and ought to convince the most skeptical. Then, once more allow me to urge the necessity of keeping and intelligently caring for the wants of our friends—the horticulturist's best friends—the bees.

Poultry is also a very necessary adjunct to successful horticulture. They destroy many insects that are very injurious to our fruit, fruit trees, shrubs and plants, and at the same time enrich the soil instead of impoverishing it.

Get some fine breed of fowls instead of mongrels, for they are far superior both in egg production and for culinary purposes (of course I would suggest the Houdan as they are my favorites), and let them have free access to the orchard. They will more than pay for the care and time thus bestowed on them in furnishing our tables with nice fresh eggs and delicious broilers, to say nothing of the great advantage that they will be in destroying injurious insects, thus giving us more and better fruit.

I do not think that poultry is fully appreciated. Many begrudge them what they eat, never thinking of the wonderful amount of good they do by destroying poisonous and otherwise injurious insects. My husband and I saw a hen catch, kill and eat a very large centipede that was within a few feet of our only little boy, who was just running around. We were both horrified at the thought of what the consequences might have been had it not been for that hen.

So I will enter a plea for poultry in general, and for Houdans in particular. They are so docile, so hardy and thrifty, such fine layers and the very best table fowl it has been my good fortune to sample. In conclusion, let me urge the three pursuits combined as being especially adapted to each other; let the verdict be that bee and poultry-raising combined are necessary adjuncts to successful horticulture.—*Read before the Texas Horticultural Society.*

Salado, Tex.

Where to Keep Comb-Honey.

J. L. BOWERS.

Do not, on any account, store honey in a cellar. The dampness causes it to sweat, and then the cappings will break and you have a lot of ruined honey.

Our honey room is in the second story of our house, and will hold two tons. It is 6x10 feet, and nine feet high, with two doors—one on each side—one opening from the hall; the other opening into a room over the porch. This room has one window. Here we put our honey first to let it harden, keeping this room light.

After exposing it to the light for about two weeks, we place it in the honey room. Never on any account, place more than two boxes on top of one another, but place shelves above each other on the order of a library.

If little red ants bother honey, place the honey on a bench and put each leg or foot in a pan of water, and my word for it, if you keep water in the pans no ants will bother the honey. Our honey room is as dark as anything can be made to be.—*Maryland Farmer.*

Convention Notices.

☞ A meeting of the Illinois State Bee-Keepers' Association will be held at the fair grounds of the Sangamon Fair Association, Springfield, Ills., on Tuesday, Sept. 9, 1891, at 1 p.m., at the office of the President of the Board. The object of the meeting, among other things, will be to formulate a programme for our regular meeting. It is of the utmost importance that the programme prepared at this meeting should embrace our best talent, as it will furnish the material for the Report which the State has made provision for publishing.

By order of the Executive Committee.

JAMES A. STONE, Sec., Bradfordton, Ills.

☞ The Ionia Bee-Keepers' Association will hold its next meeting on Tuesday, Sept. 15, 1891, at Ionia, Mich. HARMON SMITH, Sec., Ionia, Mich.

☞ The Central Michigan Bee-Keepers' Association will hold their next meeting at Pioneer Rooms, Capitol Building, Lansing, Mich., Wednesday, Sept. 16, 1891, commencing at 9 a.m. A cordial invitation is extended to all.

W. A. BARNES, Sec., Lansing, Mich.

☞ The Southwestern Wisconsin Bee-Keepers' Association will hold its next meeting on Wednesday and Thursday, Oct. 14 and 15, 1891, at Fennimore, Grant Co., Wis.

BENJ. E. RICE, Sec., Boscobel, Wis.

CONVENTION DIRECTORY.

Time and place of meeting.

1891.
Sept. 3.—Susquehanna County, at So. Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Sept 9.—State Association, at the Fair Grounds, Springfield, Ills.
Jas. A. Stone, Sec., Bradfordton, Ills.

Sept. 15.—Ionia, at Ionia, Mich.
Harmon Smith, Sec., Ionia, Mich.

Sept. 16.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., Lansing, Mich.

Oct. 14, 15.—S. W. Wisconsin, at Fennimore, Wis.
Benj. E. Rice, Sec., Boscobel, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—P. H. Elwood....Starkville, N. Y.
SECRETARY—C. P. Dadant.....Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

Bee and Honey Gossip.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Keeping the Bees Pure.

A few of your readers may think that I rear, and have fertilized in the same apiary, several races of bees. This is not so! I have three queen-rearing apiaries. The Golden Carniolan apiary is about two miles east of the home apiary; and west from the home apiary I have about 100 nuclei for Italian queens, and about the same number in the home apiary. The latter are used for Italians. Now that I have commenced to rear Punic queens, all the nuclei in the Italian apiary will be taken home, and replaced by the Punic nuclei.

Wenham, Mass. HENRY ALLEY.

On the Bright Side.

I have harvested a nice lot of honey, as there has been an almost continuous flow of honey in this locality all Summer, but since white clover ceased to bloom the flow was not heavy enough for the bees to store any surplus, although enough to keep the queens laying briskly, and prevent the bees killing the drones, consequently the hives are overflowing with young bees. Brood-rearing has been so rapid that one colony with a young Italian queen—a second swarm at that—cast one of the largest swarms this month that I have had this Summer. I examined my bees closely, the day before yesterday, and found that they were ready to enter the sections—in fact some had already begun storing honey in the sections. The honey-flow at present is from golden-rod and cotton, and the bees are in fine condition for the Fall honey-flow from the aster, which always yields a large quantity of nectar.

JOHN D. A. FISHER.

Faith, N. C., Aug. 24, 1891.

Not Much Basswood Honey.

Last Spring I had 26 colonies, which increased to 48. After casting the first swarm, inside of eight days they would swarm again; but I headed them off on that by cutting out the queen-cells. My honey is of a reddish cast, but some of it is not as dark as some honey I have seen. I would rather not have any honey-dew, so-called. I have sold some honey, and all who have said anything about it, say it is boss honey, so far as flavor is concerned. I do not know just how much honey I will have, but I have taken about 300 pounds, and have about 200 pounds that is not capped over. If we get no Fall honey-flow it looks like it would not be capped. Bees have only made a living since basswood bloom, and there was not much of that. The weather was cool all through the month of July, but we have had some good showers, which will help corn and start Fall flowers, so that we may get a little honey-flow yet. IRA ADAMSON.

Winchester, Ind.

Took First Premium.

Bee-culture has become quite popular and profitable in our town and vicinity. Many of our bee-keepers are getting from 50 to 75 pounds of comb-honey per colony. There has been but little swarming this season. I have 6 colonies, each of which have stored 50 pounds of comb-honey—all nice, clean white honey, and all the sections nearly ready to take off the third time. The prospects for a Fall crop are good. We expect from the golden-rod, which is just coming into bloom, a "golden harvest" of the best quality of honey. The Italian bee and

the Langstroth hive are the favorites here. I find bee-culture exceedingly interesting, and spend many pleasant hours in that retired portion of the garden where my village of bee-hives is located. The AMERICAN BEE JOURNAL has become indispensable, and I attribute my success greatly to its assistance. Just here my wife suggests that it will be quite appropos to mention that she took the first premium at our county fair, last week, for comb-honey—for the thickest and best filled cells—and the second premium for extracted-honey.

JAMES R. OGAN.

Tipton, Ind., Aug. 25, 1891.

A Correction.

I wish to make a correction. In my letter, on page 149, the next to the last sentence, where it reads, "but only 2 of the queens were alive, the other 4 having been destroyed by the carelessness of the express company," I should have said that "four pounds of the bees, with their queens, were destroyed by the carelessness of the express company, and they were replaced by Messrs. Colwick & Colwick." JOHN SUNDERMANN.

Huntington, Ind.

[The error was caused by the vagueness of the language used in the original letter. Such errors as the above may be avoided by the exercise of a little care on the part of correspondents, to make their statements plain and concise, leaving nothing to be inferred.—ED.]

Grubb's Patent (?) Frame.

I never used the so-called Grubb's patent (?) frame, but saw it in use in the apiary of a man by the name of Stevens, near Sioux City, Iowa, in 1881. I was informed by Mr. Stevens that the device had been in use for several years.

Monroe, Iowa. J. A. NASH.

Poorest in Five Years.

This is the poorest honey crop that we have had in five years. I had 54 colonies of bees, Spring count, and they increased to 75, but they have not stored 5 pounds of surplus per colony, though there was white and red clover in abundance. The prospects are very poor for a Fall crop. What is the matter?

ANDERSON HYER.

Washington C. H., Ohio.

Better than Last Year.

I send you to-day a view of my apiary, which numbers 42 colonies. I observe that 5 colonies are omitted from the view. This has been a poor season here, although somewhat better than last year. What honey we have is of better quality than last year's crop, and I am living in hopes of securing a Fall crop. We had a splendid rain last night, and all we want now is warm weather. Please accept this view, if you have room in your album. G. W. LOGAN.

Elwood, Iowa, Aug. 11, 1891.

[The view is placed in our office album, with thanks.—ED.]

White Clover a Failure.

Bees in this locality have done very little this season. Basswood yielded moderately well, but the honey was mixed with "bug-juice." White clover proved a failure, but buck-brush yielded some nectar. Owing to the wet season, Spanish-needle and smartweed are growing luxuriantly, and beginning to bloom, but whether they will afford any nectar, remains to be seen. However, they are our last hope. JOHN DOTY.

Galt, Mo., Aug. 25, 1891.

Prospects for Fall Honey.

There was no white clover honey in this locality. There is, however, an excellent prospect for a good crop of honey from Fall flowers.

JOHN Q. HILL.

Prophetstown, Ills., Aug. 17, 1891.

Albino Bees.

In response to an inquiry by Mr. I. F. Diamond, page 216, "Are the Albinos as hardy as the Italians, *i. e.* do they Winter as well?" I can say that the so-called Albino bees are a type distinguished by three yellow bands (Italian) and white rings below, and white thorax, with purple about the eyes. Mr. D. A. Pike, of Smithburg, Md., was the first who called attention to the white developed on the progeny of an Italian queen, in 1874. Prior to this, white markings had occasionally been noticed here and there among Italians, and Gen. Adiar applied the name Albino to the white Italians. Years ago I had fine Albino queens of Mr. Pike, Mr. Valentine and Mr. Taylor, and I got a fine Albino queen of Mr. Pike last May. I had experience

with the Italian type and the Albino, and I vouch for the Albinos being equal in all respects to the common Italians. I have proved that the true Ligurian; or Italian Alps bees, are quite superior in point of being "hardy," and endure Winter better than any other variety of yellow marked bees. I tested the Alps bees during four years, and this season I concluded to import the Ligurian variety. My first attempt failed, but I ordered more queens. They do stand the stern Winters more successfully than bees bred in less rigorous climates, and they are less pugnacious than bees bred in warm and temperate climates.

Richford, N. Y. C. J. ROBINSON.

Taylor's Swarm-Catcher.

Will Mr. B. Taylor please give us a little more definite description of how the small end of his swarm-catcher is made? The illustrations in the AMERICAN BEE JOURNAL, and in the *Review*, together with his description, make it all plain excepting the end that fits up to the hive. He says that the small end is made of a strip of carpet 3 inches wide by 16 inches long, but he evidently does not mean that. The small end, he says, is 4x16 inches, and after the swarm is in, it is closed by a thin strip of board 3½x16 inches—why is the board ½ inch narrower than the end of the catcher? His description makes the catcher the same width as the end of the hive, but the illustration shows it to be wider than the end of the hive, and neither one makes it plain to me how it fits into the right angle formed by the end of the hive and the alighting-board, so as to be bee-tight. I feel sure that his catcher is a good thing, and I presume that a few words of explanation by Mr. Taylor would make the small end as plain as the large one.

Plainwell, Mich. W. E. FORBES.

Light Crop.

White clover was quite plentiful this year, but yielded very little nectar. Basswood was a total failure, and the flow from buckwheat was only fair. The average crop will be about 10 pounds of comb-honey per colony. My bees cast their first swarm to-day, Aug. 25. The hives are not large enough to hold the crowded masses of bees, and it looks as though I would have to build an addition to hold them.

Aristotle, N. Y. H. C. FARNUM.

Requisites of a Good Smoker.

I do not like to find fault with others, but how the older apiarists have put up with the Bingham smoker for eleven years in its present shape, is more than I can understand. Why, I had not looked at mine more than 15 minutes before I voted it old fogy. Why don't he make a hole, with a slide, just above the grate when in place, so that it can be filled with whatever is desired to burn, placing a few fine shavings in the bottom, and when wanted for use open the slide and stick a lighted match in and it is off in an instant. This building a fire outside, and then putting it in the stove is too much like the man snuffing the candle with his fingers, and then putting the snuff in the snuffers, and extolling their merits. J. E. PRICHARD.

Port Norris, N. J.

[We requested Mr. Bingham to reply to the above and this is what he writes:

Such a slide would weaken the smoker, get out of order, leak smoke and add to the expense. Had he thought and looked ten minutes longer, he could have answered his own query in several ways. Probably no instrument used in an apiary has received more attention, with a view to its betterment, than the Bingham smoker; but, like the Langstroth frames, it has practically met the wants of bee-keepers in every country and condition. —T. F. BINGHAM.]

☞ Sunday School Teacher—"And now, children, who have we to thank for the beautiful sunshine, and, more than all, the health-giving rains with which we are blessed?" Texas Class (in unison)—"Uncle Jerry Rusk!"—*Denver Sun*.

Removal.—Circumstances have made it to our advantage to remove to more commodious quarters, and we may hereafter be found at 199, 201 and 203 East Randolph Street—two blocks north and one block east of our former location. Previous to removal we occupied the fifth floor of a building, but we now occupy the *third* floor of a building near the corner of Fifth Avenue and Randolph Street. Our friends are always welcome.

Wavelets of News.

Planting for Honey.

I think our experiments have shown that special planting for bees is not advisable. If a plant can be found that will surely grow, will secrete nectar in all weather, will self-sow and hold its own against weeds, etc., and needs no cultivation, such a plant might pay just for honey. Is there such a plant?

We have tried experiments this season that show most conclusively that bees are a blessing to the farmer and fruit-grower. These latter should either keep bees or else beg the bee-keeper to come. I am sure all will be interested in experiments that prove beyond peradventure that bees are very essential in nature's economy.—A. J. COOK, in *Gleanings*.

Robbing.

The trouble of robbing always arises at the close of the honey season. Take precautions in this matter and do not leave honey carelessly lying around. Do not have hives open, or cracks and crevices in the surplus stories; bees always find such and nothing of the kind escapes their notice. Robbing is often started by the apiarist's removal of surplus honey about the close of the season. This should not be done at any time during the day, but late in the evening; or what is better, make a bee "tent" from gauze or fly netting, and place this over the hive before opening it; thus all will be safe. This tent is an indispensable article, and one or more should be in every apiary. When a hive of bees is being robbed this should be set over it. There is nothing better to prevent robbing.—A. H., in *National Stockman*.

Look Out for Details.

Do not neglect the bees, though no surplus is being gathered. Extra strong colonies, if they should by accident become queenless, will dwindle rapidly and fall prey to robbers and the moth.

Comb-honey that is marketable should not be allowed to remain on the hive; it will become travel-stained, and additional wax and propolis will be added to the cappings, thus ruining its beauty and taste.

All scraps of comb, cappings from the extractor, etc., should be gathered up and melted into wax for the sake of economy and for the sake of preventing moths and robbers from getting a start.

Look out for moths in comb-honey that has been removed from the hive. If the combs show signs of worms the honey must be fumigated with sulphur on the same plan that has been given through the *Farmer*. It requires but little of the fumes to destroy the worms, but a second dose will be required in order to destroy those that were not hatched during the first fumigation, as the fumes will have no effect on the eggs. Their presence can be detected by their silky webs.—WALTER S. POUDER, in the *Indiana Farmer*.

Real and Artificial.

The Queen of Sheba having failed to puzzle Solomon with many enigmas and trials of his wisdom, stood some distance from the king holding in each hand a bouquet of lovely flowers. Those in one hand were Nature's own product, the other bouquet consisting of the most cunningly worked imitations. It was impossible for the eye to detect which were natural and which artificial. Solomon applied to his courtiers and wise men to give their opinion, but they owned their inability to decide between the two bouquets. The wise king then commanded a casement of the cedar palace to be thrown open, and admitted some bees. Attracted by the sweet perfume of the real flowers, the bees at once solved the mystery.—*Exchange*.

Introducing Queens.

We should like some of our friends, who have old and poor queens which they wish superseded, to try the following experiment: Raise the corner of the quilt on top of the frames, just about dark, so carefully that no bees become excited, or if they do notice the movement and start to crawl out, give them the least possible puff of smoke, allowing it to fall on the bees, as it were—this will cause them to move back quietly without disturbing any. When all is quiet, allow a young queen to pass in, and drop the quilt—carefully watch the result, and give the readers of the BEE JOURNAL the benefit of your experiment.

We venture the opinion that the young queen will kill the old one. If we take an old queen and a young one, and put them under a glass, allowing them to fight, the old queen being somewhat infirm, if she is laying, will be overcome by the more nimble and vigorous young

one. This being the case, we believe young queens can be easily introduced in some sly, unnoticeable way without much trouble. If she enters the hive thus and is allowed her freedom, she is very much the same as a queen just hatched in the hive, strong and vigorous.—*Canadian Bee Journal.*

Bee-Culture in Egypt.

The Egyptians exhibit great skill in their manner of cultivating the bee. The flowers and the harvest are much earlier in upper Egypt than in lower, and the inhabitants profit by this circumstance in regard to their bees. They collect the hives of different villages on large barks, and every proprietor attaches a peculiar mark to his hive; when the boat is loaded, the conductors descend the river slowly, stopping at all places where they can find pasturage for their bees.

After having thus spent three months on the Nile, the hives are returned to the proprietor, and after deducting a small sum due to the boatman for having conducted his hives from one end of Egypt to the other, he finds himself suddenly enriched with a quantity of honey and wax, which is immediately sent to the market. This species of industry procures for the Egyptians an abundance of wax and honey, which they export in large quantities to foreign countries.—*Exchange.*

Immense Labor Performed by Bees.

Nectar is the term applied by botanists to the sweet tasting fluid which is secreted within the cups of flowers, and the object gained to plants by its presence is that insects, induced to visit flowers for its sake, are useful to the plants by effecting a cross fertilization, an additional amount of vigor being thus conferred on the seeds which subsequently result, in contrast with the evil results of "breeding in and in."

The formation of nectar is observed to take place most freely in hot weather, and to be prevented by cold or wet. So great economy is exercised by the plant that it is only formed at the time when insect's visits would be beneficial, that is when the anthers are ripe and shedding their pollen, or when the stigma is mature and ready to receive pollen. By biologists the visits of bees, butterflies and other insects are believed to have exercised, in past time, an important influence in modifying the shape, size, color, etc., of flowers.

Nectar is, of course, the source whence bees derive honey, but it also affords food to many kinds of insects which do not possess the same habit as the former of storing it up.

Prof. Alexander S. Wilson, of Glasgow, has recently investigated the amounts of sugar contained in the nectar of various flowers, and laid the result of his labors before the British Associations. He shows that 2½ pounds of honey are equivalent to the supply obtained from five millions of flowers, or about two and a half millions of visits for one pound of honey.

This shows what an amazing amount of labor the bees must perform, for their industry would thus appear to be indispensable to their very existence.—*Michigan Farmer.*

Comb-Foundation.

The use of comb-foundation is a subject of importance. Its value in the heat of the busy season can hardly be estimated. It is enough to say, however, that it requires twelve pounds of honey to make one of comb, which at 15 cents a pound is worth $1.80, besides the time required to make the comb; on the other hand a pound of brood-foundation costs 45 cents, a saving of $1.35 on the pound; besides you have it just where you want it, straight and true, no extra drone-comb, etc. Therefore, I can, with a hearty conscience, say, you make no mistake in using it, even in full sheets. It may seem a little expensive, but when you come to figuring it you will be surprised. One pound of medium brood-foundation will furnish full sheets for six Langstroth brood-frames, or about 7 cents per frame, or 50 cents to fill the brood-chamber of a dove-tailed hive. Now, instead of using full sheets of foundation I cut the sheets bias—that is, cut them diagonally across from one corner to the one opposite. This makes a wedge-shaped piece of comb and serves the purpose about as well as the full ones. In hiving a swarm on empty frames, you will notice the bees begin at one end of the frame and build down to the bottom and then bias shape to the upper corner, hence, I am inclined to believe that cutting the foundation in the shape above described is just the thing.—H. F. PETTS, in *Farm, Field and Stockman.*

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